

I claim:

**1. An apparatus comprising:**

a plurality of optical fibers, wherein:

said optical fibers each having a first end and a second end;

said fibers are capable of transmitting infrared radiation ("IR");

a sensor for sensing IR, wherein said sensor is in IR-sensing contact with said first end of each of said optical fibers;

a separator, wherein said separator engages said plurality of fibers and is suitable for spatially separating said optical fibers in a pattern that enables said optical fibers to engage individual samples on a sample plate.

**2. The apparatus of claim 1 further comprising a collar for bundling said optical fibers.**

**3. The apparatus of claim 1 wherein said second end of said optical fibers are physically adapted to receive a first chemical entity.**

**4. The apparatus of claim 3 wherein said individual samples comprise said first chemical entity.**

**5. The apparatus of claim 1 further comprising a surface having a binding compound disposed thereon.**

**6. The apparatus of claim 1 wherein said first end of said optical fibers are physically coupled to said sensor.**

**7. The apparatus of claim 1 wherein said separator is engaged to said plurality of fibers such that it can slide along said plurality of fibers.**

**8. A method comprising:**

engaging a chemical entity to a first end of an IR-transmitting fiber;

bringing said chemical entity in contact with a binding compound; and

conducting a thermal signal resulting from a binding interaction to a thermal sensor through said IR-transmitting fiber, wherein said binding interaction occurs between said chemical entity and said binding compound.

**9.** The method of claim 8 further comprising sliding a separator along said IR-transmitting fiber.

**10.** The method of claim 8 wherein engaging a chemical entity further comprises inserting said first end of said IR-transmitting fiber into a sample carrier.

**11.** The method of claim 8 wherein bringing said chemical entity in contact with a binding compound further comprises inserting said first end of said IR-transmitting fiber into a well after engaging said chemical entity.

**12.** A method comprising:  
positioning a separator along a plurality of IR-transmitting fibers to obtain a desired spacing between said adjacent fibers at one end thereof; and  
conducting a thermal signal through said IR-transmitting fiber.

**13.** The method of claim 12 further comprising engaging a chemical entity to said one end of said IR-transmitting fibers.

**14.** The method of claim 13 further comprising bringing said chemical entity into contact with a binding compound.

**15.** The method of claim 12 wherein conducting a thermal signal further comprises conducting said thermal signal to a thermal sensor.